UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address : COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/347,780	11/30/94	BARTLEY T	A290C

EXAMINER
SPECTOR,L

18M1/0117

AMGEN INC
US PATENT OPERATIONS/RRC
M/S 10-2-E-431 AMGEN CENTER
1840 DEHAVILLAND DRIVE
THOUSAND OAKS CA 91320-1789

ART UNIT	PAPER NUMBER
1812	6

DATE MAILED: 01/17/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

For Restriction only

☒ This application has been examined 1 ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire — month(s), 30 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice re Patent Drawing, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, Form PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☒ Claims 1-66 are pending in the application.

   Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☐ Claims _____ are rejected.

5. ☐ Claims _____ are objected to.

6. ☒ Claims 1-66 are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable. ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed on _____, has been ☐ approved. ☐ disapproved (see explanation).

12. ☐ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____ ; filed on _____.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

PTOL-326 (Rev. 9-89)

Part III: Detailed Office Action

The numbering of claims is not accordance with 37 C.F.R. 1.126. The original numbering of the claims must be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When claims are added, except when presented in accordance with 37 CFR 1.121(b), they must be renumbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 36-46, introduced in the amendment filed 2/16/96, paper number 7, been renumbered 67-77.

Claims 1-66 have been cancelled. Claims 67-77 are pending and under consideration.

Formal Matters:

37 C.F.R.§1.821(d) reads as follows:

> (d) Where the description or claims of a patent application discuss a sequence listing that is set forth in the "Sequence Listing" in accordance with paragraph (c) of this section, reference must be made to the sequence by use of the assigned identifier, in the text of the description or claims, even if the sequence is also embedded in the text of the description or claims of the patent application.

The claims and specification are not in compliance with 37 C.F.R.§1.821(d), and should be amended to refer to the appropriate sequence identifier(s) (SEQ ID NO:). For example, see claims 67-77, as well as numerous portions of the specification. Correction is required.

It is noted that the numbering of the amino acid sequences in the figures do not correspond with the sequence listings. For example, SEQ ID NO:25, which appears to correspond to the protein of Figure 11, commences with a serine residue, and does not include the leader sequence of Figure 11. In addition, the Examiner finds some confusing references in the specification, wherein two alternative numbering schemes are simultaneously being used to describe a single sequence; see for Example, the brief description of Figure 18. Applicants are **required** to choose a single numbering scheme, and to amend the specification, sequence listing and/or claims, as necessary, to reflect the chosen numbering scheme.

The oath or declaration is defective. A new oath or declaration in compliance with 37 C.F.R. § 1.67(a) identifying this application by its Serial Number and filing date is required. See M.P.E.P. §§ 602.01 and 602.02.

on fond, but f did not file

The oath or declaration is defective because:

It does not state that the person making the oath or declaration in a continuation-in-part application filed under the conditions specified in 35 U.S.C. § 120 which discloses and claims subject matter in addition to that disclosed in the prior copending application, acknowledges the duty to disclose material information as defined in 37 C.F.R. § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

Figures:

37 CFR 1.74 states:

> When there are drawings, there shall be a brief description of the several views of the drawings and the detailed description of the invention shall refer to the different views by specifying the numbers of the figures, and to the different parts by use of reference letters or numerals (preferably the latter).

Figure 5 contains two parts, Figure 17, three. The parts are not labelled on the Figures themselves, nor is proper reference made to the parts in the Brief Description of the Drawings. Specifically, the brief description of Figure 5 makes no reference to the SDS-PAGE gel, and the preamble to the description of Figure 17 should begin "Figures 17 A-C show..." Correction is required.

Clean copies of Figures 5, 11 and 14 should be submitted. Figures 5 and 11 are illegible due to poor photocopy quality, and Figure 14 extends too close to the top of the page, such that information was lost when holes were punched to allow insertion in the file wrapper. Correction is required.

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 2/16/96 have been approved.

Specification:

The disclosure is objected to because of the following informalities. Appropriate correction is required for *each* listed item:

-Any nonprovisional application claiming the benefit of one or more prior filed copending nonprovisional applications or international applications designating the United States of America must contain or be amended to contain in the first sentence of the specification following the title a reference to each such prior application, identifying it by application number (consisting of the series code and serial number) or international application number and international filing date

and indicating the relationship of the applications. Cross-references to other related applications may be made when appropriate. See 37 C.F.R. §1.78. The specification should be amended to include cross-reference to all such related applications.

Double Patenting Rejections:

The non-statutory double patenting rejection, whether of the obvious-type or non-obvious-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel,* 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornam*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321 (b) and (c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78 (d).

Effective January 1, 1994, a registered attorney or agent of record may sign a Terminal Disclaimer. A Terminal Disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 67-77 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 36-44 of copending application Serial No. 08/252628. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are drawn to fragments of the nucleic acids of the copending claims, which fragments are not patentably distinct from the nucleic acid encoding the protein in its entirety.

This is a *provisional* obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The Examiner notes that additional provisional double patenting rejections over the claims of Application Serial No. 08/321488 may be applicable. Because that application was not available to the Examiner at the time this Office Action was written, a positive determination of such could not be made. However, all applicable rejections will be made in the next Office Action.

The specification is objected to as failing to provide proper antecedent basis for the

claimed subject matter. See 37 C.F.R. § 1.75(d)(1) and M.P.E.P. § 608.01(l). Correction of the following is required: There is no basis in the specification for the limitation of a nucleic acid encoding a polypeptide having as its C-terminus an amino acid from positions 172-265 of Figure 11. Although such would be enabled by the specification, there is no indication in the specification that this particular range was envisioned.

The information disclosure statement (PTOL-1449) submitted 2/15/95 has been considered. The Examiner did not find numerous of the documents in application 08/252628 (wherein applicants indicated such documents would be found), and therefore could not consider such. Applicants are invited, in response to this Office Action, to submit copies of any of the non-considered references. Such will be considered to have been submitted with the original information disclosure statement, and therefore need not be accompanied by an additional form 1449, fee or statement. Such submissions will be considered timely only if filed with the response to this, and no subsequent, Office Action.

The Examiner notes and supplemental Information Disclosure Statements were submitted by applicants with certificate of mailing dates 3/26/96 and 4/12/96, papers numbered 8 and 9 respectively. These information disclosure statements fail to comply with the provisions of MPEP 609 because they were accompanied by no listing of the references, no references, and no forms PTO-1449. They have been placed in the application file, but the information referred to therein has not been considered as to the merits.

Objections and Rejections under 35 U.S.C. §112:

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

The specification does not teach how to make host cells transformed with DNA sequences according to Claim 70, which sequences comprise no vector. Similarly, the method of claim 77 is non-functional and therefore not enabled, as the isolated polynucleotides of claims 67-69, from which it indirectly depends, to not contain any vector or regulatory sequences. Amending claim

75 to depend from claim 73, and claim 77 to depend from claim 76 would be remedial.

Claims 75-77 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Claims 67-77 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite for the recitation "Y is 172 through 265"; such would seem to constitute an improper grouping, in which species may be referred to in the alternative only, or as part of a closed grouping. Replacing the phrase with language such as "Y is selected from the group consisting of residues 172 through 265" would be remedial.

Claim 69 is indefinite because it recites X as being 22, but then specifies residues -1 and -2; it is not clear what applicants envision as occurring between residue -1 and residue 22. Further, as the specification clearly indicates the dipeptide optionally attached to the amino terminus of the protein as being Met-Lys, the correct designation for such would be Met^{-2} and Lys^{-1}, rather than the opposite, as found in the claim. To remediate both these problems, the Examiner suggests language such as "An isolated polynucleotide according to Claim 36... further encoding the dipeptide Met-Lys immediately upstream (or 5' to) the codon for X".

There is no antecedent basis in claims 67-69 for the "DNA sequence" of Claim 70. Claim 70 is also indefinite for reciting "A DNA sequence...which is a DNA sequence".

There is no antecedent basis in claim 71 for a cDNA of claim 70.

Prior Art:

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Number 4,894,440 discloses purified Meg-CSF, a human protein with molecular weight 15 kD, which can be bound and eluted from WGA-Sepharose (see column 2). In the paragraph bridging columns 2-3, Rosenberg suggests cloning Meg-CSF.

U.S. Patent Number 5,326,558 discloses a human megakaryocytopoietic factor purified from urine and cloned. The sequence of that protein does not correspond to that of Figure 11.

U.S. Patent Number 5,260,417, submitted by applicants, discloses a 45 kD megakaryocyte growth promoting protein.

The claims are free of the cited prior art. Although numerous groups obtained DNA encoding TPO after the priority date of this application, it was unpredictable, as of the priority date, that one would be able to obtain DNA encoding TPO corresponding to the sequence of Figure 11.

Advisory Information:

No claim is allowed. All claims would be allowable if amended to overcome the objections and rejections under 35 U.S.C. §112.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Lorraine M. Spector, whose telephone number is (703) 308-1793. Dr. Spector can normally be reached Monday through Friday, 8:00 A.M. to 4:30 P.M.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Ms. Garnette D. Draper, can be reached at (703)308-4232.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at telephone number (703) 308-0196.

Certain papers related to this application may be submitted to Group 1800 by facsimile transmission. Papers should be faxed to Group 1800 via the PTO Fax Center located in Crystal Mall 1 (CM1). The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)). The Art Unit 1812 Fax Center number is (703) 308-0294. NOTE: If Applicant *does* submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office. **Please** advise the Examiner at the telephone number above when a fax is being transmitted.

Lorraine Spector

Lorraine Spector, Ph.D.
Patent Examiner

LMS
347780.1
5/22/96